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(54) MICROPOROUS HYDROPHILIZED POLYOLEFIN MEMBRANE AND ITS PRODUCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a high-strength high-permeability hydrophilic microporous membrane by grafting a specified amount of an acrylic monomer onto the surface and pore surfaces of a microporous membrane made from a polyolefin composition containing an at least specified amount of an ultrahigh-molecular-weight polyolefin and having a specified porosity and a specified air permeability.

SOLUTION: 5-40 wt. % acrylic monomer is grafted onto the pore surfaces and surface of a microporous membrane made from a polyolefin composition containing at least 1 wt. % ultrahigh-molecular-weight polyolefin having a weight-average molecular weight of 5×10^5 or above and having a porosity of 50% or above and an air permeability of 60 Gurley sec or below. The microporous polyolefin membrane is made by extruding a solvent solution of a polyolefin composition having a specified composition to form a film, removing the solvent from the film and heat-setting it. The acrylic monomer is grafted onto its surface after the surface is treated by irradiation with an ionizing radiation. The acrylic monomer is exemplified by a (meth)acrylic acid (ester) desirably in combination with a crosslinking agent, Mohr's salt and water/alcohol.